METHOD, DEVICE, AND GRAPHICAL USER INTERFACE PROVIDING WORD RECOMMENDATIONS FOR TEXT INPUT

RELATED APPLICATIONS

This application claims priority to U.S. Provisional Patent Application No. 61/010,619, "Method, Device, and Graphical User Interface Providing Word Recommendations for Text Input," filed Jan. 9, 2008, the content of which is hereby incorporated by reference in its entirety.

This application is related to: U.S. patent application Ser. No. 11/620,641, "Method and System for Providing Word Recommendations for Text Input," filed Jan. 5, 2007; U.S. patent application Ser. No. 11/620,642, "Method, System, and Graphical User Interface for Providing Word Recommendations," filed Jan. 5, 2007; U.S. patent application Ser. No. 11/850,015, "Methods for Determining a Cursor Position from a Finger Contact with a Touch Screen Display," filed Sep. 4, 2007; and U.S. patent application Ser. No. 12/101,832, "Touch Screen Device, Method, and Graphical User Interface for Determining Commands by Applying Heuristics," filed Apr. 11, 2008. All of these applications are incorporated by reference herein in their entirety

TECHNICAL FIELD

The disclosed embodiments relate generally to text input on portable communication devices, and more particularly, to methods and systems for providing word recommendations in response to text input.

BACKGROUND

In recent years, the functional capabilities of portable communications devices have increased dramatically. Current devices enable communication by voice, text, and still or moving images. Communication by text, such as by email, instant message (IM) or short messaging service (SMS), has proven to be quite popular.

However, the size of these portable communication devices also restricts the size of the text input device, such as a physical or virtual keyboard, in the portable device. With a size-restricted keyboard, designers are often forced to make the keys smaller or overload the keys. Both may lead to typing mistakes and thus more backtracking to correct the mistakes. This makes the process of communication by text on the devices inefficient and reduces user satisfaction with such portable communication devices.

Accordingly, there is a need for more efficient ways of entering text into portable devices.

SUMMARY

In accordance with some embodiments, a computer-implemented method, performed at a portable electronic device having a touch screen display, includes displaying a plurality of key icons, each key icon having an adjustable hit region of dynamically adjustable size, and receiving a sequence of individual touch points input by a user on the touch screen display. Each touch point is determined at lift off of a contact from the touch screen display. An image with an enlarged version of a character that will be selected as the character corresponding to an individual touch point is displayed prior to lift off of a respective contact, wherein the character image that is displayed prior to lift off is selected in accordance with the adjustable hit regions of the displayed key icons. After receiving each of the individual touch points, the method performs a set of operations, including: forming a user-input directed graph for the sequence of individual touch points received so far; determining a character corresponding to a last received individual touch point in accordance with the adjustable hit regions of the displayed key icons; displaying a sequence of characters corresponding to the sequence of individual touch points, including the determined character; and updating sizes of the adjustable hit regions for a plurality of the key.

In accordance with some embodiments, a computer readable storage medium, for use in conjunction with a portable electronic device having a touch screen display, stores one or more programs for execution by one or more processors of the portable electronic device. The one or more programs include instructions for displaying on the touch screen display a plurality of key icons, each key icon having an adjustable hit region of dynamically adjustable size. The one or more programs further include instructions for receiving a sequence of individual touch points input by a user on the touch screen display. Each touch point is determined at lift off of a contact from the touch screen display. An image with an enlarged version of a character that will be selected as the character corresponding to an individual touch point is displayed prior to lift off of a respective contact, wherein the character image that is displayed prior to lift off is selected in accordance with the adjustable hit regions of the displayed key icons. The one or more programs further include instructions for processing the received individual touch points by performing operations after receiving each of the individual touch points, the operations including: forming a user-input directed graph for the sequence of individual touch points received so far; determining a character corresponding to a last received individual touch point in accordance with the adjustable hit regions of the displayed key icons; displaying on the touch screen display a sequence of characters corresponding to the sequence of individual touch points, including the determined character; and updating sizes of the adjustable hit regions for a plurality of the key icons.

In accordance with some embodiments, a portable electronic device having a touch screen display includes one or more processors, memory, and one or more programs stored in the memory, the one or more programs configured to be executed by the one or more processors. The one or more programs include instructions for displaying on the touch screen display a plurality of key icons, each key icon having an adjustable hit region of dynamically adjustable size. The one or more programs further include instructions for receiving a sequence of individual touch points input by a user on the touch screen display. Each touch point is determined at lift off of a contact from the touch screen display. An image with an enlarged version of a character that will be selected as the character corresponding to an individual touch point is displayed prior to lift off of a respective contact, wherein the character image that is displayed prior to lift off is selected in accordance with the adjustable hit regions of the displayed key icons. The one or more programs further include instructions for processing the received individual touch points by performing operations after receiving each of the individual touch points, the operations including: forming a user-input directed graph for the sequence of individual touch points received so far; determining a character corresponding to a last received individual touch point in accordance with the adjustable hit regions of the displayed key icons; displaying on the touch screen display a sequence of characters corresponding to the sequence of individual touch points, includ-